



**Response Action Contract  
for Remedial, Enforcement Oversight, and Non-Time  
Critical Removal Activities at Sites of Release or  
Threatened Release of Hazardous Substances  
in EPA Region VIII**

**ADMINISTRATIVE  
RECORD**

**U.S. EPA Contract No. 68-W5-0022**

**Draft Technical Memorandum  
Contaminant Screening Study  
Interim Results  
Libby Asbestos Site, Operable Unit 4  
Libby, Montana**

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# Acronyms

CSS	contaminant screening study
EPA	U.S. Environmental Protection Agency
GIS	geographic information system
IFF	information field form
LA	Libby amphibole
RAC	Response Action Contract
RI	remedial investigation
S/cm <sup>2</sup>	structures per square centimeter
SAP	sampling and analysis plan
VCI	vermiculite containing insulation

# Section 1

## Introduction

This document is an interim technical memorandum for the contaminant screening study (CSS), which is part of the remedial investigation (RI) activities for the Libby Asbestos Site Operable Unit 4. This technical memorandum presents the available results and conclusions that can be drawn from the 2002 field program as well as details the 2003 field activities.

### 1.1 Background

Historical investigations at the Libby Asbestos Site include the phase I and phase II sampling programs. The phase I sampling program, initiated in early 2000, was designed as a rapid pilot-scale investigation to:

- Determine whether or not airborne asbestos levels in Libby required time-critical action to protect public health
- Quantify asbestos levels in potential source materials
- Identify appropriate analytical methods to screen for and quantify asbestos

The phase II sampling program began in March 2001 and was designed to refine human exposure and health risk estimates through collection of systematic data on asbestos levels in air and other media and identification of sources of airborne asbestos.

Through the phase I and II programs EPA determined:

- Exposure to Libby amphibole (LA) is a threat to human health (U.S. Environmental Protection Agency [EPA] 2001).
- Release of respirable LA occurs when source materials are disturbed (EPA 2001).
- Source materials include vermiculite containing insulation (VCI), vermiculite products and process wastes, and soil containing greater than 1 percent LA.
- Household dust is a potential exposure pathway.
- Time critical removals are necessary and therefore were initiated.
- There is wide-spread presence of LA throughout the study area.
- All properties in the study area should be evaluated for the presence of LA.

## 1.2 Contaminant Screening Study

Phase I and II investigations identified the need to evaluate all properties in the Libby study area for the presence of potential sources of LA. Considering the size of the study area and the number of properties to be evaluated, emphasis on a cost-effective and timely characterization approach was paramount. The CSS, as an interim step in the RI, was designed to meet this need.

The ultimate goal of the CSS is to categorize every property as either remediation required or no remediation required in accordance with the criteria defined in EPA's May 2002 action memorandum (Figure 1).

However, quantitative rules for identifying sources of asbestos have not been finalized. These rules depend on refined analytical methods and completion of the ongoing site-specific risk assessment. Further, not all samples collected during the CSS have been analyzed. As a results, for planning purposes all soil samples are assumed to be non-detect.

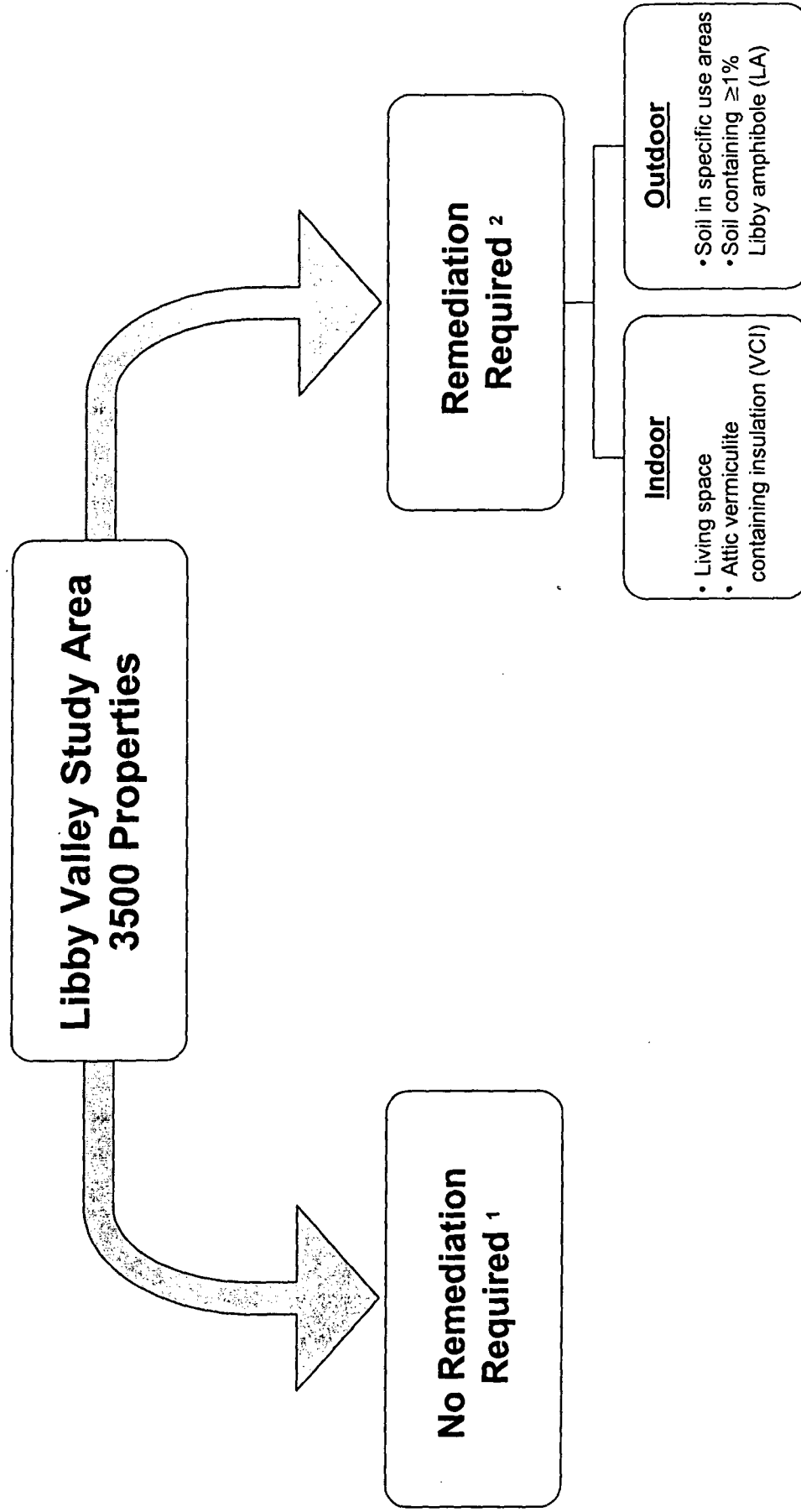
In addition, due to inaccessible attic the current status of VCI would not be determined for some attics; the past presence of VCI could cause indoor contamination that could not be detected during the CSS; secondary sources indications could have caused indoor contamination that could not be detected during the CSS; and friable building materials could have caused indoor contamination that could not be detected during the CSS.

For these reasons, the CSS ultimately categorized the properties into three rather than two categories (Figure 2), which include:

- No remediation required
- Additional information needed to determine if remediation is required
- Remediation required

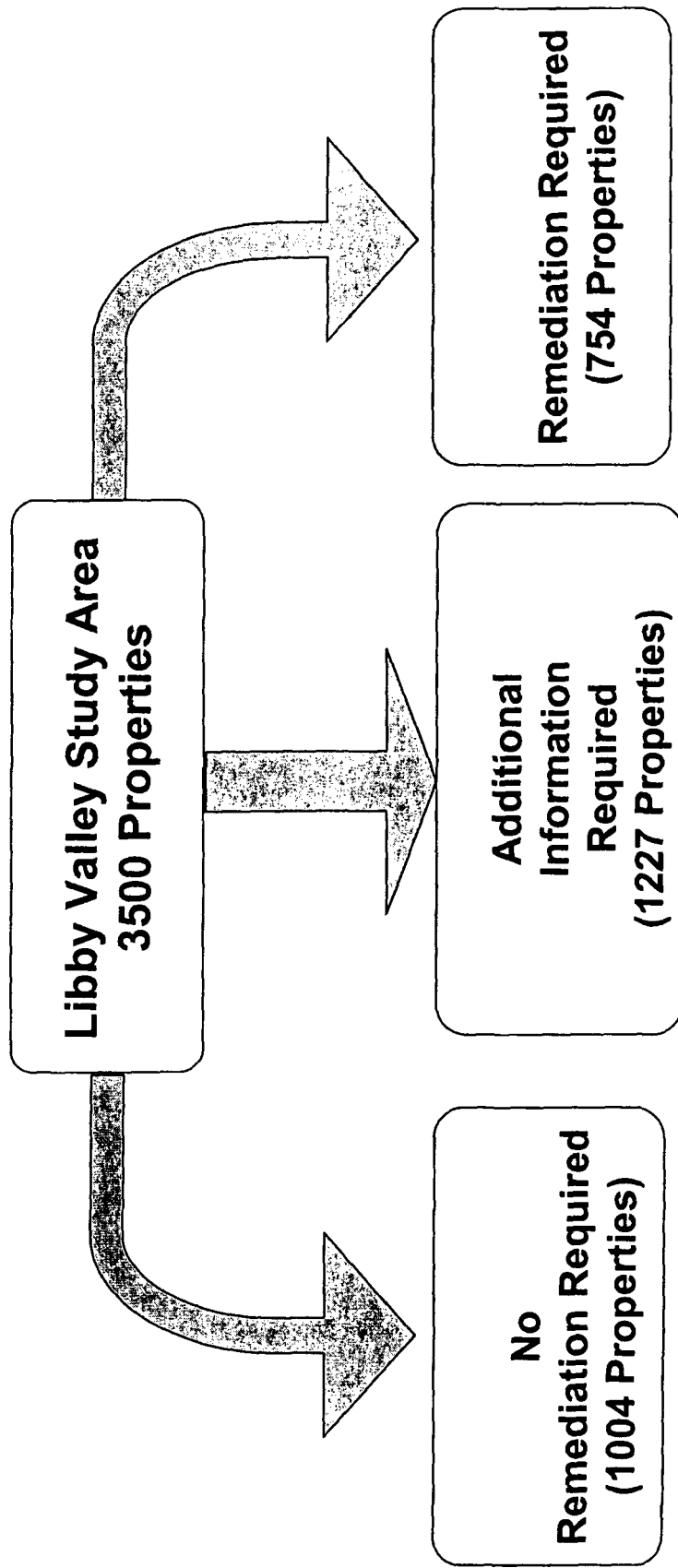
Details regarding the CSS process and results are found in Sections 2 and 3.

**Figure 1 – May 2002 Action Memorandum Decision Summary**



1. Based on current guidelines and assumptions.
2. Removal action as defined by EPA's 2002 action memorandum (EPA 2002).

**Figure 2 – CSS Three Tier Property Categorization System**



## Section 2

# Summary of 2002 Activities

The CSS investigation used a combination of visual inspections and interviews (i.e., property reconnaissance) and soil sampling to screen each property in the study area for the presence or absence of potential sources of LA. Screening and sampling efforts focused on areas of the property where vermiculite products were most likely to be encountered (e.g., attic insulation and garden soil) and where the potential disturbance and exposure to LA-containing vermiculite was most likely (e.g., near-surface soils).

In general, property reconnaissance and sampling followed the procedures outlined in the CSS sampling and analysis plan (SAP) (CDM 2002). Minor deviation from, or changes to, the rationale and approach described in the CSS SAP have been documented and will be detailed in the final technical memorandum.

### 2.1 Property Reconnaissance

Property reconnaissance allowed visual identification of sources of LA (e.g., in attic or soils), as well as dialog with residents and property owners to obtain other anecdotal information about the property. The reconnaissance teams contacted residents, obtained signed property access agreements, assigned property identification data for use with geographic information system (GIS), photographed building(s) located on each property, and completed the information field forms (IFFs) (Attachment A). Property owner interviews and visual inspections were used to obtain answers to seven specific questions, which were:

- Is there any knowledge of former miners, close relatives of miners, or any highly exposed persons living at or visiting the property?
- Is the resident, past or present, diagnosed with an asbestos-related disease?
- Does the interior have VCI?
- Did the interior ever have VCI?
- Are there vermiculite additives in any of the building materials?
- Are primary source materials present at the property?
- Where are possible outdoor LA sources located?



## 2.2 Property Soil Sampling

Many of the properties in Libby have processed and unprocessed vermiculite as backfill or soil conditioners. Therefore, samples of outdoor soils were collected to determine if LA was present and, if so, at approximately what concentration. EPA assumed that visible vermiculite is a known source of LA (CSS SAP, Appendix A, CDM 2002) and, if present, will be cleaned up. Thus, in an effort to reduce cost, soil samples were only collected from areas where visible vermiculite was not identified.

Approximately 10,500 soil samples were collected as part of the 2002 CSS investigation. Consistent with the SAP, two to five, 5-point composite samples were collected from each property. For non-disturbed areas (e.g., yard), composite samples were collected from a 0 to 1 inch depth interval. For disturbed areas (e.g., garden, fill area, landscaped areas, etc.), composite samples were collected from a 0 to 6 inch depth interval. These depths were chosen based on the site conceptual model. Mechanical disturbance that would potentially result in release and exposure to LA are most likely to occur only at the surface for non-disturbed areas (e.g., lawn mowing). However, potential releases may occur down to 6 inches in disturbed areas (e.g., rototilling and digging).

The majority of the soil samples collected during the 2002 CSS have not been analyzed. For cost-effectiveness reasons, EPA is evaluating existing and developing analytical method(s) to determine which will provide the level of information necessary to support decision-making activities.

## Section 3

# 2002 Contaminant Screening Study Results

In order to maximize resources and go forward with remedial efforts, EPA is making decisions in a phased approach. Visual inspections and interviews from the CSS provided critical observational data, which will allow many decisions to be made immediately. Analytical testing of soil samples collected during the CSS will provide quantitative data and are needed to quantify outdoor remediation needs. These analytical results will be discussed in the final CSS memorandum.

### 3.1 Criteria for Remediation

Each property in the Libby study area may require cleanup in three general areas: the attic space, the interior living space, and outdoors. Therefore, three decisions are required for each property to determine the need for, and extent of, cleanup. The CSS was designed to collect information for each of these three areas.

EPA's May 2002 action memorandum outlined the general remedial decision criteria for each area (Table 3-1). A property has to meet only one of the triggering criterion (as opposed to all) for that area to require cleanup, unless otherwise specified. It is also important to note that more rigorous criteria may be established once risk assessment data become available.

**Table 3-1 Decision Matrix Supporting May 2002 Action Memorandum**

Remedial Decision	Location	Remedial Trigger Criteria
Remediation	Indoor	
	Attic	<ul style="list-style-type: none"> <li>■ Presence of VCI in attic</li> <li>■ Indication VCI removed and dust sample in attic with concentration greater than or equal to 5,000 structures per square centimeter (S/cm<sup>2</sup>)</li> </ul>
	Living Space	<ul style="list-style-type: none"> <li>■ Presence of VCI in living space</li> <li>■ Dust samples with concentration greater than or equal to 5,000 S/cm<sup>2</sup></li> </ul>
	Outdoor	
	Specific Use Areas	<ul style="list-style-type: none"> <li>■ Visible vermiculite</li> </ul>
No Action	Other Soil Areas	<ul style="list-style-type: none"> <li>■ Soil sample with concentration greater than or equal to 1 percent LA</li> </ul>
	All locations	<ul style="list-style-type: none"> <li>■ None of the above triggers are present at the property</li> </ul>

### 3.2 2002 CSS Results

During the 2002 CSS, 3,439 properties were visited. Based on the criteria outlined above, 754 properties were identified as *require remediation* (i.e., exhibited at least one remedial trigger) in an indoor or outdoor location of concern. Another 1,227 properties were categorized as *additional information required* (i.e., inconclusive presence of remedial triggers). Lastly, 1,004 met the *no action criteria* (i.e., no remediation triggers were observed or detected). Specific areas of remediation for

each of these properties are described in Table 3-2. The remaining 454 properties visited during 2002 were either vacant, the owner refused to participate in the investigation, or the sampling teams were unable to make contact with the property owner following multiple visits.

**Table 3-2 Contaminant Screening Study Three Tier Categorization System**

Decision	Category	Location	Trigger
Remediation Required (7545 properties)	Indoor remediation required (199 properties)	VCI in attic	<ul style="list-style-type: none"> <li>VCI observed</li> <li>Observation that VCI has been previously removed and dust sample results are greater than or equal to 5,000 LA S/cm<sup>2</sup></li> </ul>
	Outdoor remediation required (449 properties)	Indoor living space	<ul style="list-style-type: none"> <li>Visual VCI in living space</li> </ul>
		Specific use areas	<ul style="list-style-type: none"> <li>Dust sample results with a concentration greater than or equal to 5,000 LA S/cm<sup>2</sup></li> </ul>
		Other soil areas	<ul style="list-style-type: none"> <li>Visible vermiculite</li> </ul>
	Indoor and outdoor remediation required (107 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>Soil sample results with a concentration greater than or equal to 1 percent LA</li> <li>See triggers identified above</li> </ul>
Additional Information Required (1227 properties)	Indoor sampling required (509 properties)	Indication of secondary indoor sources in living space	<ul style="list-style-type: none"> <li>Current or past resident employed at Libby vermiculite mine or other Libby processing facilities</li> <li>Current or past resident diagnosed with an asbestos-related disease</li> </ul>
		VCI in attic	<ul style="list-style-type: none"> <li>Building materials containing vermiculite are deteriorating (i.e., friable)</li> <li>Presence of VCI in attic not confirmed</li> </ul>
		Other soil areas	<ul style="list-style-type: none"> <li>Observation that VCI has been previously removed, but dust samples were not previously collected</li> </ul>
	Outdoor sampling required (249 properties)	Vermiculite visible over large area of property	<ul style="list-style-type: none"> <li>Vermiculite visible over large area of property</li> </ul>
	Indoor and outdoor sampling required (234 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> </ul>
No Remediation Required (1004 properties)	Indoor remediation and outdoor sampling required (181 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> </ul>
	Outdoor remediation and indoor sampling required (53 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> </ul>
	No remediation required (1004 properties)	No indications of potential LA sources	<ul style="list-style-type: none"> <li>VCI not present in attic</li> <li>VCI not present historically in attic</li> <li>No visible vermiculite in specific use areas</li> <li>All available dust results are less than 5,000 LA S/cm<sup>2</sup></li> <li>All soil sample results are less than 1 percent LA</li> <li>No mining history at property</li> <li>No asbestos-related disease history</li> <li>Vermiculite not used in building materials</li> </ul>

LA – Libby amphibole, S/cm<sup>2</sup> – structures per square centimeter, VCI – vermiculite containing insulation

## Section 4

# Proposed 2003 Field Activities

Sampling will occur in the 2003 field season to satisfy two objectives: first, to complete the CSS investigation by sampling properties where it is still uncertain if any cleanup is required and second, to support design activities collecting samples at properties where cleanup is required to determine the extent of contamination.

### 4.1 CSS Field Activities

The focus of the 2003 program is to move properties from the additional information required category to the no remediation required or remediation required categories. To facilitate this effort, EPA grouped properties into one of nine categories based on known characteristics and data needs. These categories are:

1. Indoor remediation required
2. Outdoor remediation required
3. Indoor and outdoor remediation required
4. Indoor sampling required
5. Outdoor sampling required
6. Indoor and outdoor sampling required
7. Indoor remediation and outdoor sampling required
8. Outdoor remediation and indoor sampling required
9. No remediation required

The process used to place properties into the nine planning categories utilized available information and the following assumptions:

- Current vermiculite attic insulation requires remediation.
- Attics that had vermiculite insulation removed in the past, but remnants still remain, will require remediation. In addition, dust samples will be collected in the living space to determine if remediation will be required.
- A dust sample result greater than or equal to 5,000 LA S/cm<sup>2</sup> confirms that indoor remediation is required.
- A soil sample result greater than non detect is an indication of outdoor contamination. At this time, areas with results greater than or equal to 1 percent LA will be remediated.
- Visible vermiculite in specific use areas (e.g. current or former flowerbeds, gardens) will be remediated per the Action Memorandum amendment. Additional

- sampling will be required in other areas where visible vermiculite was noted (e.g., yard). This decision is based on two primary factors:
  1. The amount of vermiculite in specific use area tends to be higher than in the yard, as it was often used in these areas as a soil conditioner. Such areas are most likely to contain elevated levels of LA. Generally, these areas are small, present the greatest exposure risk (people working in gardens), and can be remediated quickly. EPA has made the decision that cleaning up these areas without additional sampling will be most protective in the short term and most efficient over the long term.
  2. The amount of vermiculite in the yard tended to be lower than in specific use areas (in fact it may have been a few flakes over a very large area). The yard generally presents a lesser exposure risk than specific use areas and is much larger and more difficult to remediate. EPA decided that additional sampling is required for these areas to determine if cleanup is warranted.
- All soil samples not yet analyzed will be considered non detect for LA until data are received. This is for planning purposes only, and once data are received, properties will be placed in the proper category.
- If attic or outdoor contamination is confirmed, indoor dust samples will be collected in the living space to determine if remediation is required.
- If vermiculite was removed from the attic in the past but is not visible, dust samples will be collected in the attic and living space to determine if remediation is required.
- If access cannot be gained into a closed or sealed attic, indoor dust samples will be collected in the living space to determine if remediation is required.
- If one or more of the secondary questions (i.e., mining history, asbestos-related disease, or vermiculite in building materials) receives a yes response, and that property does not currently have or never has had vermiculite insulation, indoor dust samples will be collected.

In addition, properties with no identified LA sources, which would otherwise require no additional sampling, may require additional sampling if an adjacent or nearby property has a significant LA source. For instance, properties in the vicinity of the former export plant may require indoor dust sampling even if there are no other indications of LA sources. Specific implementation details for this scenario will be evaluated when more sampling results are available.

Table 4-1 provides details of each of the categories and the number of associated properties. Figure 3 illustrates how these nine planning categories are associated with the CSS three tier classification system.

### **4.3 Design Field Activities**

Once a property has been determined to need remediation, sampling is required to refine the extent of remediation in an effort to reduce remedial costs. Table 4-1 details the remediation action or additional information that will be collected at each of the properties to accomplish this. These actions are based on the assumptions provided above.

**Figure 3 – Association between CSS Three Tier Property Categorization System and the Nine Planning Categories**

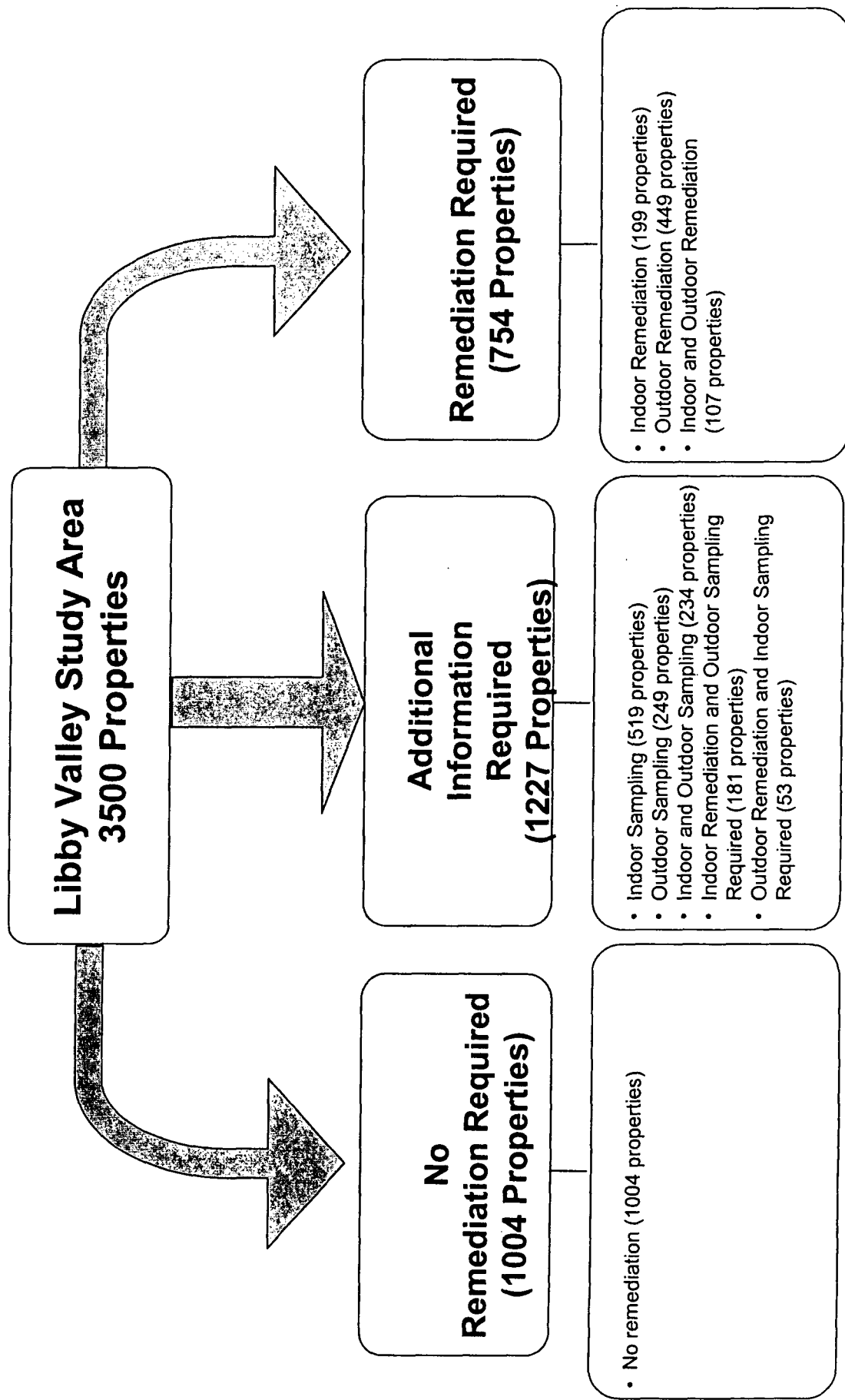




Table 4-1 Contaminant Screening Study Three Tier Categorization System with Planned Actions			
Decision	Category	Location	Trigger
Remediation Required (754 properties)	Indoor remediation required (199 properties)	VCI in attic	<ul style="list-style-type: none"> <li>VCI observed</li> <li>Remove VCI</li> </ul>
		Indoor living space	<ul style="list-style-type: none"> <li>Observation that VCI has been previously removed and dust sample results are greater than or equal to 5,000 LA S/cm<sup>2</sup></li> <li>Visual VCI in living space</li> <li>Remove VCI</li> </ul>
		Specific use areas	<ul style="list-style-type: none"> <li>Dust sample results with a concentration greater than ore equal to 5,000 LA S/cm<sup>2</sup></li> <li>HEPA vacuum and wet wipe interior living space</li> </ul>
		Other soil areas	<ul style="list-style-type: none"> <li>HEPA vacuum and wet wipe interior living space</li> </ul>
	Outdoor remediation required (449 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>Visible vermiculite</li> <li>Remove area</li> <li>Soil sample results with a concentration greater than or equal to one percent LA</li> <li>Remove area</li> </ul>
Additional Information Required (1,227 properties)	Indoor and outdoor remediation required (107 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> <li>See actions identified above</li> </ul>
	Indoor sampling required (509 properties)	Indication of secondary indoor sources in living space	<ul style="list-style-type: none"> <li>Current or past resident employed at Libby vermiculite mine or other Libby processing facilities</li> <li>Collect dust samples in living space to determine if concentration is greater than or equal to 5,000 LA S/cm<sup>2</sup>. Review trigger criteria.</li> <li>Current or past resident diagnosed with an asbestos-related disease</li> <li>Collect dust samples in living space to determine if concentration is greater than or equal to 5,000 LA S/cm<sup>2</sup>. Review trigger criteria.</li> <li>Building materials containing vermiculite are deteriorating</li> <li>Collect dust samples in living space to determine if concentration is greater than or equal to 5,000 LA S/cm<sup>2</sup>. Review trigger criteria.</li> </ul>
		VCI in attic	<ul style="list-style-type: none"> <li>Presence of VCI in attic not confirmed</li> <li>Visually inspect attic or collect dust samples in living space to determine if concentration is greater than or equal to 5,000 LA S/cm<sup>2</sup>. Review trigger criteria.</li> <li>Collect dust samples in living space to determine if concentration is greater than or equal to 5,000 LA S/cm<sup>2</sup>. Review trigger criteria.</li> </ul>
		Other soil areas	<ul style="list-style-type: none"> <li>Observation that VCI has been previously removed but dust samples were not previously collected</li> <li>Collect dust samples in living space to determine if concentration is greater than or equal to 5,000 LA S/cm<sup>2</sup>. Review trigger criteria.</li> </ul>
	Outdoor sampling required (249 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>Vermiculite visible over large area of property</li> <li>Collect soil sample from area to determine if area contains 1 percent LA or greater. Review trigger criteria.</li> </ul>
	Indoor and outdoor sampling required (234 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> <li>See actions identified above</li> </ul>
	Indoor remediation and outdoor sampling required (181 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> <li>See actions identified above</li> </ul>
	Outdoor remediation and indoor sampling required (249 properties)	Combination of above locations	<ul style="list-style-type: none"> <li>See triggers identified above</li> <li>See actions identified above</li> </ul>
	No Remediation Required (1004 properties)	No indications of potential LA sources	<ul style="list-style-type: none"> <li>VCI not present in attic</li> <li>VCI not present in attic in past</li> <li>All available dust results are less than 5,000 LA S/cm<sup>2</sup></li> <li>No visible vermiculite in specific use areas</li> <li>All soil sample results are less than 1 percent LA</li> <li>No mining history at property</li> <li>No asbestos-related disease history</li> <li>Vermiculite not used in building materials</li> </ul>
			<ul style="list-style-type: none"> <li>None</li> </ul>

LA – Libby amphibole, S/cm<sup>2</sup> – structures per square centimeter, VCI – vermiculite containing insulation

## Section 5

# Summary

The 2002 CSS program was designed to cost effectively screen all properties in the Libby valley for the presence or absence of potential sources of LA. The ultimate goal of the investigation is to categorize every property as either remediation required or no remediation required based on criteria defined in EPA's May 2002 action memorandum. Limitations in quantitative results (e.g., soil samples) resulted in properties visited during the 2002 CSS being categorized in three rather than two categories.

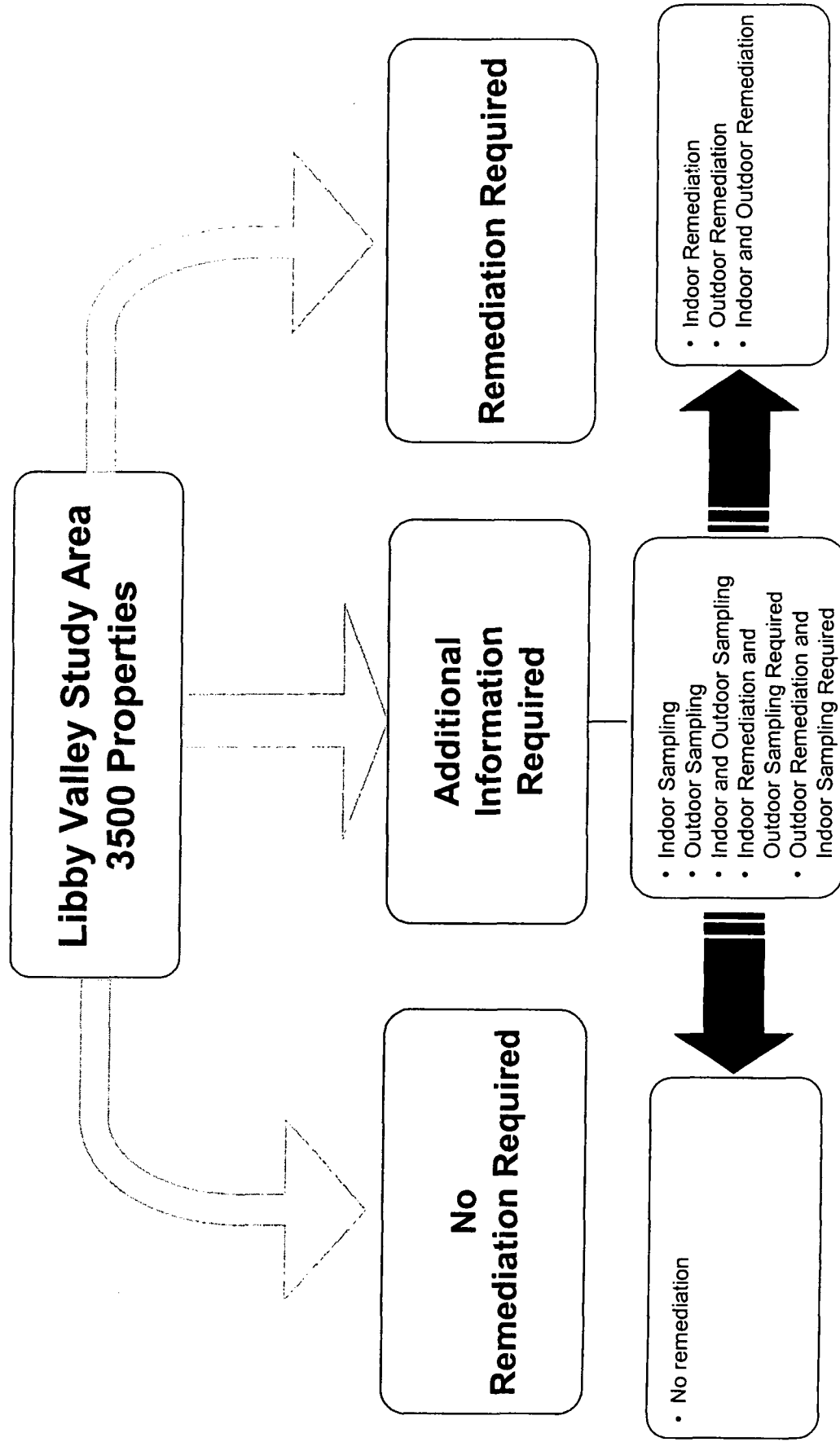
- No remediation required
- Remediation required
- Additional information needed to determine if remediation is required

LA source data was collected at 2,985 properties in the Libby study area. Of these, 754 require some type of remediation; 1,004 properties have data to support no remediation is required; and additional information is required at 1,227 properties where remedial needs were indeterminate. An additional 454 properties could not be accessed to gather data for remedial needs assessment.

Sampling will continue in 2003 to satisfy two objectives. First, to complete the CSS investigation by sampling properties where it is still uncertain if any cleanup is required. Second, to support design activities by sampling will include properties where cleanup is required; however, the extent of that cleanup is undefined.

Once the CSS is completed and all additional information is collected, all properties in the study area will have data to support placement into one of four categories: indoor remediation required, outdoor remediation required, indoor and outdoor remediation required, or no remediation required (Figure 4).

**Figure 4 – Final Categorization of All Properties in the Libby Valley Study Area**



## Section 6

# References

CDM. 2002. Final Sampling and Analysis Plan, Remedial Investigation, Contaminant Screening Study, Libby Asbestos Site, Operable Unit 4. April 2002.

EPA. 2001. Chris Weis Memorandum to Paul Peranard. Subject: Amphibole Mineral Fibers in Source Materials in Residential and Commercial Areas of Libby Pose an Imminent and Substantial Endangerment to Public Health. December 20, 2001.

\_\_\_\_\_. 2002. Action Memorandum. May 2002.

# Attachment A Information Field Form

BD# \_\_\_\_\_

☐ Soil samples collected (Date: \_\_\_\_\_)

**LIBBY ASBESTOS PROJECT**  
**Contaminant Screening Study**  
**Primary Structure and Property Assessment Information Field Form (IFF)**

Field Logbook No.: \_\_\_\_\_ Page No.: \_\_\_\_\_ Site Visit Date: \_\_\_\_\_

Address: \_\_\_\_\_ Structure Description: \_\_\_\_\_

Occupant: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Owner (if different than occupant): \_\_\_\_\_ Phone Number: \_\_\_\_\_

Sampling Team: \_\_\_\_\_

Field Form Check Completed by (100% of forms): \_\_\_\_\_

Screening Field Check Completed by (2% of forms): \_\_\_\_\_

Data Item	Value	Notes
<b>HOUSE ATTRIBUTES</b>		
Property Description	Residential Industrial Commercial	
Surrounding Land Use	Residential Industrial Commercial School Mining Other: _____	
Year of Construction	_____ Unknown	
Square Footage		
Construction Material	Wood frame Masonry/Stone Other: _____	
Number of Floors Above Ground	1 2 3 Other: _____	
Number of Rooms Per Floor Above Ground	1: _____ 2: _____ 3: _____ Other: _____	
Basement	Yes No	
Heating Source	Wood/Coal Electric Propane/Gas Other: _____	
Heat Distribution	Forced air Radiant Other: _____	

**CSS INFORMATION FIELD FORM (continued)**

Address: \_\_\_\_\_

BD# \_\_\_\_\_

Data Item	Value	Notes
<b>OCCUPANT INFORMATION</b>		
Number of Adults/Employees	0   1   2   3   4 5-15   16-20   21-30   >30	
Number of Children	0   1   2   3   4 Other: _____	
Years at Location	<1   1-5   5-10   10-15   >15	
Was the residence/building remodeled?	Yes                      No	
	If yes, When (years):   <2   2-5   >5 Where:   Attic            Living Areas Garage    Basement Other: _____	
Has resident/business purchased any Libby vermiculite materials from W.R. Grace in the past?	Yes                      No	
Has the property at this location been used for a for-profit enterprise of distributing, treating, storing, or disposing of Libby vermiculite?	Yes                      No	
Are there any known areas of exposed vermiculite?	Yes                      No	
	If yes, Where:   Ceiling    Walls Floors    Attic Other: _____	

CSS INFORMATION FIELD FORM (continued)

Address: \_\_\_\_\_

BD# \_\_\_\_\_

Data Item	Value	Notes
<b>INDOOR ASSESSMENT</b>		
Vermiculite Insulation Past or Present	Attic:        Yes No NA Unknown Walls:        Yes No NA Unknown Basement:    Yes No NA Unknown Crawl Space: Yes No NA Unknown Other: _____	Visual confirmation of current presence or absence required for attic.
Evidence of Physical Damage?	Yes                No	
Evidence of Water Damage?	Yes                No	
<b>OUTDOOR ASSESSMENT</b>		
Libby Amphibole Sources Present	Garden:        Yes No NA Yard:            Yes No NA Stockpiles:    Yes No NA Other: _____	
Proximity to Other Properties with Potential Sources of Libby Amphiboles	Next door Within same block Other: _____ Unknown	



CSS INFORMATION FIELD FORM (continued)

Address: \_\_\_\_\_

BD# \_\_\_\_\_

Data Item	Value	Notes
<b>EXPOSURE ASSESSMENT</b>		
Type and Frequency of Activity Near Vermiculite Material - Indoor	Frequency: Once a day Once a week Once a month Once a year Not Applicable	Not Applicable applies when no vermiculite is present on the property.
	Duration of Contact: <1 hour 1-2 hours 2-4 hours >4 hours Not Applicable	
	Extent of Contact: Heavy Moderate Light Not Applicable	
Type and Frequency of Activity Near Vermiculite Material - Outdoor	Frequency: Once a day Once a week Once a month Once a year Not Applicable	Not Applicable applies when no vermiculite is present on the property.
	Duration of Contact: <1 hour 1-2 hours 2-4 hours >4 hours Not Applicable	
	Extent of Contact: Heavy Moderate Light Not Applicable	

**CSS INFORMATION FIELD FORM (continued)**

Address: \_\_\_\_\_

BD# \_\_\_\_\_

Data Item	Value	Notes
<b>CONTAMINANT SCREENING STUDY ASSESSMENT</b>		
<b>Occupant Information</b>		
Is there any knowledge of former miners, close relative of miners, or any highly exposed persons living or visiting the property?	Yes                  No Unknown	
Is the resident, past or present, diagnosed with an asbestos related disease?	Yes                  No Unknown	
<b>Indoor Information</b>		
Does the interior have Zonolite attic insulation?	Yes                  No Unknown	
Did the interior ever have Zonolite attic insulation?	Yes                  No Unknown              NA	NA applies if attic currently has ZAI.
Are there vermiculite additives in any of the building materials?	Yes                  No Unknown	
<b>Outdoor Information</b>		
Is there any evidence of primary source materials at or near the property?	Yes                  No Unknown	
Could this have been tracked indoors or otherwise spread outdoors on the property?	Yes                  No Unknown	
<b>Overall Assessment</b>		
Are primary source materials present at the property?	Yes                  No	
Where are primary source materials located?	Inside                  Outside Both                    NA	
<b>ADDITIONAL INFORMATION</b> _____		
_____		
_____		
_____		

CSS INFORMATION FIELD FORM (continued)

Address: \_\_\_\_\_

BD# \_\_\_\_\_

**FIELD DIAGRAM OF PROPERTY**

Identify important features (i.e. drainage, trees, gardens, structures, flowerbeds, utility poles, known underground utilities, suspected Libby amphibole source areas, sample locations, etc). **Include north arrow.**

NOT TO SCALE

A large grid of graph paper for drawing a field diagram. The grid consists of small squares, with dashed lines forming a larger grid pattern across the page. This is intended for users to draw property features like drainage, trees, gardens, structures, flowerbeds, utility poles, known underground utilities, suspected Libby amphibole source areas, and sample locations. A north arrow is also required.

CSS INFORMATION FIELD FORM (continued)

Address: \_\_\_\_\_

BD# \_\_\_\_\_

**FIELD DIAGRAM OF PRIMARY STRUCTURE**

Include approximate dimensions of attic. Use more than one diagram if needed. Completed only if ZAI is present.

Scale: 1/10" = 1 foot